DC HELIX

Overview

FLEXPOWER **HELIX** are single voltage power systems specifically designed for mission critical applications that require redundant back up power. HELIX systems combine two identical power configurations within the same rackmount enclosure to provide uninterrupted output power with zero voltage drop and zero sag switchover.

Network management provides email alerts on AC or system faults and allows remote monitoring of critical system parameters for both the main and backup power supplies, including output voltage, battery voltage, battery current, and enclosure temperature. Programmable upper and lower limits on key parameters allow tailoring of fault points to the application.

HELIX systems are factory pre-configured for 120 or 230VAC operation with either 12 or 24 VDC output. Sixteen (non-managed) distributed outputs are fused at 3A each and individually protected against electrical surges caused by lightning or transients on the external wiring (SurgeShied). HELIX configurations feature comprehensive fault detection and reporting with programmable fault delays and come in a 2U rackmount enclosure.

System Features

Dual FPO offline power supplies
- *120 or 230 VAC operation*
- *12 or 24 VDC output*

Network management and reporting
- *AC loss*
- *AC or System faults*
- *Low battery*
- *Internal Temperature*
- *Programmable upper and lower limits*
- *Remote monitoring of system parameters*
- *Time to service*

System Functions

Redundant backup power
- *Two mirrored systems*
- *Single voltage 12 or 24VDC*
- *Zero voltage sag on switchover*
- *1 amp charger*
- *16 fused or class II power limited outputs*

Lifetime Warranty

RH 250 - 16 P N

FLEXPOWER HELIX

power rating (Watts)

network outputs

Class II power limited

AC Input	Model No.	No. of outputs
120 VAC	RH250-N	1
	RH250-8N	8
	RH250-16N	16
230 VAC	RH250-N	1
	RH250-8N	8
	RH250-16N	16

For Class II outputs, add P after outputs in model number

RH250 Specifications

Input Power	Input 120 or 230 VAC model specific 50/60 Hz, 282 Watts, 2.35 amps Thermal overload protection Short circuit protection Master illuminated AC on/off switch
Output Power	250 Watts, maximum of 20 amps at 12 VDC or 10 amps at 24 VDC model specific DC1 continuous output Power distribution: 16 individual fused outputs rated at 3 amps each 16P, 16PN models: 16 individual Class II power limited outputs rated at 2.5 amps each 120 mV output voltage ripple
Internal PS Indicators	AC input and DC1 output System Fault, AC Fault, Ground Fault, Reverse Battery
External Indicators	AC on Distributed outputs
Battery Charging	Independent built-in charger for sealed lead acid or gel type batteries Microprocessor dual rate charging of 12 or 24 V battery sets Automatic switchover to standby battery when AC fails Maximum charge current 1.0 amp Low battery and battery presence supervision (form C contacts) AC fail supervision (form C contacts) Zero voltage drop when switched over to battery backup
Regulatory Compliance	UL294 / UL603 / ULC S318 / ULC S319 CSA C22.2 #107.1 / CSA 22.2 #60950 / FCC
BTU Rating	109 BTU/Hr
Physical Dimensions	2U rack mount (19.00"W x 3.5"H x 14"D)

FAULT DETECTION AND REPORTING

The comprehensive fault detection and reporting mechanism of the FPO power supply provides for both local and remote fault reporting.

Independent relay contacts are provided to report AC and system fault conditions to remote or auxiliary equipment.

Detected Fault Conditions

AC Power

- *AC loss, AC low, AC Presence, Master AC power switch*

DC Power and System

- *Abnormal or loss of power supply operation*
- *Over current, over temperature condition*
- *DC output high, low*
- *Battery Presence, Earth Ground (user optional)*
- *Reversed battery condition, blown fuse or loss of output voltage on selected accessory boards (detected on the power supply)*

POWER DISTRIBUTION OPTIONS

3A fuse per output

- *Fusing may be increased if desired by installer for greater power capability - see manual for further information*

2.5A class II power limited per output

Visual Indicators

- *DC Presence: Green LED per output*
- *Fault Condition: Yellow LED per 8 output bank*

Removable terminals: accepts #12 to #24 AWG

NETWORK COMMUNICATION MODULE

Network Interface for Monitoring / Reporting / Controlling

- *Enables network connectivity via LAN / WAN for remote diagnostics, battery management, and trouble / service email alerts*

PowerCom software provides 24/7 power status monitoring of

- *System integrity*
- *Battery condition*
- *Cabinet temperature*

Network & email alerts for

- *AC / System fault conditions*
- *Switch to back-up power*
- *Degraded battery*
- *Fire Alarm Interface (FAI) or external event activation*
- *Time-to-service reminders*

1000 event time & date stamp buffer with Excel compatible reports

SNMP interface v1, v2, v3 and allows network access of real time system parameters under SNMP

HELIX LIMITATIONS

Due to the nature of this product and its intended applications, the limitations and conditions of installation of the Helix power supply must be fully understood by the system planner & installer. Please thoroughly read the HELIX installation manual and understand the following sections before using the Helix power supply.

Redundancy

The Helix line of power supplies adds a layer of redundancy over the typical FPO power supply. Only the FPO power supply is redundant - any distribution in the system is not redundant. Also, the Helix cannot overcome any problems in the field wiring or load devices - if a short circuit shuts down the main supply, the backup supply will also be shut down by this short circuit.

Primary AC Connection

Both FPO power supplies must be powered from the same AC branch circuit. Powering the two internal FPO power supplies from different branch circuits could lead to possible improper operation and loss of output voltage.

Backup Battery

FPO2 must have battery backup connected for proper operation. A battery should not be connected to FPO1 - this is to prevent cycling between FPO1 and FPO2 during battery discharge on loss of AC.

Fault Contacts

The fault contacts of BOTH FPO power supplies must be monitored to annunciate failure of either power supply. The fault contacts may either be monitored separately or series/paralleled as needed for a common fault indication. The network managed models ("N" suffix) offer the most comprehensive diagnostic reporting and are strongly recommended for mission critical applications.

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